

Claims

- [c1] 1.A cable signal distribution system, in combination with an existing cable network in a building, cable device input in the building connected to the existing cable network to supply at least one cable device, cable signal input from outside the building connected to the existing cable network to provide an initial cable signal into the building and a CATV digital set top box, comprising:
- a turn-around splitter including an input and at least two outputs, said input connected to the cable signal input;
 - a first of at least two outputs of said turn-around splitter connected to the cable device input by a first coaxial cable;
 - a second of at least two outputs of said turn-around splitter connected to a second coaxial cable to provide a path between said turn-around splitter and the CATV digital set top box;
 - said turn-around splitter including band splitting electronics to divide the initial cable signal into a high frequency band and a low frequency band as the initial cable signal enters said input of said turn-around splitter;
 - said band splitting electronics having the capability to transmit said low frequency band out said at least two

outputs of said turn-around splitter, said band splitting electronics having the capability to terminate said high frequency band of said initial cable signal entering said turn-around splitter and prevent transmission of said high frequency band of the initial cable signal entering said turn-around splitter to said at least two outputs of said turn-around splitter, said band splitting electronics having the capability to receive a frequency in a range of said high frequency band at said second of said at least two outputs of said turn-around splitter which is transmitted on said second coaxial cable towards said second of said at least two outputs of said turn-around splitter and redirect said frequency in a range of said high frequency band to said first of said at least two outputs of said turn-around splitter;

a reverse transmitting device connected between said second coaxial cable and the CATV digital set top box, said reverse transmitting device configured to receive the output cable signal from the CATV digital set top box, said reverse transmitting device configured to convert and transmit the output cable signal from the CATV digital set top box as a converted output cable signal on a frequency in a range of said high frequency band to said second of said at least two outputs of said turn-around splitter; and
said first of said at least two outputs connected to said

second of said at least two outputs of said turn-around splitter such that said converted output cable signal from said reverse transmitting device transmitted on the range of said high frequency band to said second of said at least two outputs of said turn-around splitter on said second coaxial cable is transmitted to said first of said at least two outputs of said turn-around splitter and onto the cable device input by said first coaxial cable to feed said at least one cable device in the building with said converted output cable signal from the CATV digital set top box.

[c2] 2.The cable signal distribution system of claim 1, wherein said band splitting electronics includes an internal splitter having an input and at least two outputs; wherein said input of said internal splitter is connected to said input of said turn-around splitter to receive the initial cable signal; wherein the initial cable signal is split between said at least two outputs of said internal splitter; wherein said band splitting electronics includes an input diplex filter for each of said at least two outputs of said internal splitter, each of said input diplex filters configured to divide the initial cable signal into said high frequency band and said low frequency band, each of said input diplex filters configured to pass said low frequency band and terminate said high frequency band of

the initial cable signal; wherein said band splitting electronics includes an output diplex filter connected to each of said input diplex filters to receive said low frequency band, said output diplex filters connected together to transmit said converted output cable signal in the range of said high frequency band, said output diplex filters each having a output connected to one of said at least two outputs of said turn-around splitter to transmit said low frequency band of the initial cable signal to said the cable device input and the CATV digital set top box, and also transmit said converted output cable signal to the cable device input.

[c3] 3.The cable signal distribution system of claim 1, wherein said reverse transmitting device is a video hub, said video hub having the capability to receive said low frequency band from said second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmit said low frequency band to said CATV digital set top box, said video hub having the capability to receive the output signal from said CATV digital set top box and transmit the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c4] 4.The cable signal distribution system of claim 1, wherein said reverse transmitting device is a transmitting means for receiving said low frequency band from said second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmitting said low frequency band to said CATV digital set top box, said transmitting means for receiving the output signal from said CATV digital set top box and transmitting the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c5] 5.The cable signal distribution system of claim 2, wherein said reverse transmitting device is a video hub, said video hub having the capability to receive said low frequency band from said second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmit said low frequency band to said CATV digital set top box, said video hub having the capability to receive the output signal from said CATV digital set top box and transmit the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c6] 6.The cable signal distribution system of claim 2, wherein said reverse transmitting device is a transmitting means for receiving said low frequency band from said second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmitting said low frequency band to said CATV digital set top box, said transmitting means for receiving the output signal from said CATV digital set top box and transmitting the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c7] 7.A method of distributing a digital cable signal in a building using the existing cable network in the building, comprising:
receiving an initial cable signal into a building and feeding the initial cable signal into an input of a turn-around splitter,
splitting the initial cable signal into a high frequency band and a low frequency band at the turn-around splitter, whereby the turn-around splitter includes band splitting electronics to divide the initial cable signal into the high frequency band and the low frequency band as the initial cable signal enters the input of said turn-around splitter;

terminating the high frequency band from the initial cable signal to prevent transmission of any signals from the initial cable signal in a range of the high frequency band;

transmitting the low frequency band to a CATV digital set top box and other cable devices through outputs of the turn-around splitter using a coaxial cable for each output;

receiving an output signal from the CATV digital set top box through the same cable used to transmit the low frequency band to the CATV digital set top box;

converting the output signal from the CATV digital set top box to a converted output cable signal be transmitted in the range of the high frequency band to the turn-around splitter;

transmitting said converted output signal to the turn-around splitter in the range of the high frequency band through the same cable used to transmit the low frequency band to the CATV digital set top box; and

transmitting said converted output signal to the other outputs of the turn-around splitter from the output connected to the CATV digital set top box.

- [c8] 8.The method of claim 7, wherein said band splitting electronics includes an internal splitter having an input and at least two outputs; wherein said input of said in-

ternal splitter is connected to said input of said turn-around splitter to receive the initial cable signal; wherein the initial cable signal is split between said at least two outputs of said internal splitter; wherein said band splitting electronics includes an input diplex filter for each of said at least two outputs of said internal splitter, each of said input diplex filters configured to divide the initial cable signal into said high frequency band and said low frequency band, each of said input diplex filters configured to pass said low frequency band and terminate said high frequency band of the initial cable signal; wherein said band splitting electronics includes an output diplex filter connected to each of said input diplex filters to receive said low frequency band, said output diplex filters connected together to transmit said converted output cable signal in the range of said high frequency band, said output diplex filters each having a output connected to one of said at least two outputs of said turn-around splitter to transmit said low frequency band of the initial cable signal to said the cable device input and the CATV digital set top box, and also transmit said converted output cable signal to the cable device input.

- [c9] 9.The method of claim 7, wherein said reverse transmitting device is a video hub, said video hub having the capability to receive said low frequency band from said

second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmit said low frequency band to said CATV digital set top box, said video hub having the capability to receive the output signal from said CATV digital set top box and transmit the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c10] 10. The method of claim 7, wherein said reverse transmitting device is a transmitting means for receiving said low frequency band from said second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmitting said low frequency band to said CATV digital set top box, said transmitting means for receiving the output signal from said CATV digital set top box and transmitting the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c11] 11. The method of claim 8, wherein said reverse transmitting device is a video hub, said video hub having the capability to receive said low frequency band from said second of said at least two outputs of said turn-around

splitter on said second coaxial cable and transmit said low frequency band to said CATV digital set top box, said video hub having the capability to receive the output signal from said CATV digital set top box and transmit the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.

[c12] 12. The method of claim 8, wherein said reverse transmitting device is a transmitting means for receiving said low frequency band from said second of said at least two outputs of said turn-around splitter on said second coaxial cable and transmitting said low frequency band to said CATV digital set top box, said transmitting means for receiving the output signal from said CATV digital set top box and transmitting the output signal from said CATV digital set top box on said second coaxial cable as said converted output cable signal to said second of said at least two outputs of said turn-around splitter on said high frequency band.